The Office of Regulatory Staff's

Review of Duke Energy Progress, LLC Application for Approval of Rider DSM/EE-9 (Revised)

October 16, 2017
(Revised November 20, 2017)

DOCKET NO. 2017-245-E

EXECUTIVE SUMMARY

In Duke Energy Progress, LLC's ("DEP" or "Company") Application for Approval of Rider Demand Side Management ("DSM") and Energy Efficiency ("EE")-9 ("Application"), the Company is seeking recovery of $39,768,922 with $27,853,090 (or 70%) attributed to residential customers and $11,915,832 (or 30%) attributed to general service customers to cover the revenue requirements of Rider DSM/EE-9. This report details the Office of Regulatory Staff's ("ORS") findings and recommendations based on its review of the Company's Application, programs, and cost recovery mechanism.

The effects of the recovery amounts sought by the Company on Residential and General Service billing factors are shown in the table below and are included in Exhibit 1 of this report.

DSM/EE Rider	Approved Rider 8 Rate (cents/kWh)	Requested Rider 9 Rate (cents/kWh)
Residential	1.146	1.282
General Service	0.992	0.773

If Rider DSM/EE-9 is approved, the monthly bill of an average residential customer using 1,000 kilowatt-hours ("kWh") per month will increase by approximately $1.36.

Based on its review, ORS recommends the following adjustments:

- A reduction of $11,583 to the Company's South Carolina request to account for a correction of misstated carrying costs discovered in the Application and to remove certain expenses that were either not allowable for ratemaking purposes or were incorrectly categorized.

- An increase of $521,859 to the Company's South Carolina request to account for program cost and carrying cost calculation errors contained in the Company's Application.

The effect of these adjustments result in an adjusted General Service EE rate exceeding that which was published in the Public Service Commission of South Carolina's ("Commission") Notice of Filing dated August 14, 2017, as well as those published by the Company and posted to the Commission's Docket Management System on September 6, 2017 and September 19,

2017. Therefore, ORS recommends that these adjustments totaling $510,276 be included in the Company's 2018 filing. ORS did not include the adjustments in Exhibit 1 of this report.

ORS finds that the Company's programs are performing well and achieving higher than forecasted savings. With ORS's recommended adjustments, ORS finds that the updated Rider DSM/EE-9 was developed in accordance with the terms and conditions set forth by the Commission in Docket Nos. 2008-251-E and 2015-163-E and is based on reasonable estimates of participation in the Company's programs.

BACKGROUND AND INTRODUCTION

The Company's South Carolina DSM/EE mechanism was established in the stipulation filed on January 23, 2009 in Docket No. 2008-251-E ("Stipulation") and approved by Commission Order No. 2009-373, dated June 26, 2009. Tariffs for the initial set of DSM/EE programs covered under this mechanism were filed in Docket No. 2009-190-E on May 11, 2009, with the initial proposed cost recovery application filing following in Docket No. 2009-191-E on the same date. The Company's initial cost recovery application covered nine (9) DSM and EE programs, with six (6) programs targeting residential customers, two (2) targeting commercial and industrial customers and one (1) program available to all customers.

The 2009 Stipulation set forth the Company's original DSM/EE mechanism and methodology for recovery of prudently incurred DSM/EE program costs, net lost revenues and a program performance incentive ("PPI") equal to 8% of the net savings for DSM programs and 13% of net savings for EE programs (the "Original Mechanism"). DSM/EE costs were to be amortized over a period not to exceed ten (10) years; net lost revenues were not amortized and were recovered only for the first thirty-six (36) months after the installation of a measure; and the PPI was amortized using a ten (10) year amortization period. Net lost revenues and the PPI were to be trued-up following the completion and review of a program's impact evaluation. Large commercial customers using more than 1 million kWhs annually and all industrial customers were eligible to opt out of DEP's DSM/EE programs. Customers that opted out received a DSM/EE credit. All residential customers paid the residential DSM/EE Rider rate. Since the initial cost recovery filing, five (5) additional annual cost recovery applications were approved under the Original Mechanism in Docket Nos. 2010-161-E, 2011-181-E, 2012-93-E, 2013-76-E, and 2014-89-E.

Order No. 2015-596 in Docket No. 2015-163-E approved a new cost recovery and incentive mechanism for DSM and EE programs (the "Revised Mechanism"), to be effective January 1, 2016. Under the Revised Mechanism, DSM/EE costs are to be amortized over a period not to exceed three (3) years, rather than the ten (10) year period used under the Original Mechanism. As in the Original Mechanism, the Company earns a return on unamortized balances at the most recently approved net-of-tax rate of return. Under the Revised

Mechanism, net lost revenues are reduced by "Net Found Revenues", which are any increases in revenues resulting from any new activity by DEP that causes a net increase in any customer's demand or energy consumption. The order includes a "Decision Tree" to assist in determining which activities may produce Net Found Revenues. As in the Original Mechanism, net lost revenues are not amortized and are recovered only for the first thirty-six (36) months after the installation of a measure. The Revised Mechanism modifies the PPI to 11.75% of the net savings of the entire DSM/EE portfolio, excluding any low income programs, education programs, and research and development activities not directly associated with a DSM/EE program. As is the case with DSM/EE costs, the PPI will be amortized over a three (3) year period. Beginning this year and annually through 2020, the Company is also eligible, under the Revised Mechanism, to receive a $75,000 bonus should it achieve incremental energy savings equal to one percent (1%) of the prior year's retail electricity sales during the five (5)-year period 2015 through 2019. The Company filed the first Application under the Revised Mechanism on September 1, 2015 – the Application for approval of Rider DSM/EE-7 which, with certain modifications, became effective January 1, 2016.

On August 1, 2016, the Company filed an Application for approval of Rider DSM/EE-8 to become effective January 1, 2017. ORS, in accordance with the terms of the approved settlement agreement and Commission Order No. 2015-596, conducted a review of DEP's filing and approved the Company's filing with certain modifications that reduced the Company's requested Residential rate rider.

On August 1, 2017, the Company filed an Application for approval of Rider DSM/EE-9 to become effective January 1, 2018. ORS, in accordance with the terms approved in Commission Order No. 2015-596, conducted a review of DEP's filing. ORS's review includes an evaluation of the three (3) major cost components associated with the Company's DSM and EE programs, -- Program Costs, Net Lost Revenues and PPI. ORS audited the Company's costs for the period of January 1, 2016 to December 31, 2016 ("Test Period"). ORS also reviewed the Company's cost estimates for the period of January 1, 2017 to December 31, 2017 ("Rate Period"). The Company is requesting the updated Rider DSM/EE-9 be effective for service rendered on and after January 1, 2018.

DSM PROGRAMS

The Company's filing includes a request for cost recovery encompassing twenty (20) DSM/EE programs. The programs and the launch dates of each program are as follows:

Residential Programs	
Pilot CFL Program	10/01/2007
Residential Home Advantage Program	01/01/2009
Residential Load Control Program (EnergyWise™)	04/01/2009
Energy Efficient Benchmarking / My Home Energy Report	05/06/2009
Solar Water Heating Pilot	06/01/2009
Home Energy Improvement	07/01/2009
Residential Low Income – Neighborhood Energy Saver	10/01/2009
Residential Lighting	01/01/2010
Appliance Recycling	04/15/2010
Residential New Construction	01/01/2012
Multi Family Energy Efficiency	06/01/2014
K12 Performance – National Theater	06/01/2014
Save Energy and Water Kit	11/01/2015
Commercial and Industrial Programs	
CIG Energy Efficiency	05/01/2009
CIG Demand Response Automation	05/01/2011
Small Business Energy Saver	11/01/2011
General Service Lighting	04/01/2013
Business Energy Report	12/30/2015
EnergyWise Business	01/04/2016
Programs for All Customers	
Distribution System Demand Response ("DSDR")	04/01/2008

The Pilot CFL Program, which was the pilot program for the Residential Lighting Program, ended in 2008. Because of the ten (10) year amortization of program costs and the PPI, an insignificant dollar amount is still included in the current rider for this pilot program.

The Residential Home Advantage Program was terminated March 31, 2013 because of higher buildings standards and Energy Star standards that went into effect in 2013, making the program no longer cost effective. The program was replaced by the Residential New Construction Program.

While neither the Solar Water Heating Pilot nor the Residential Home Advantage Program are active programs, due to the amortization period in effect when these program costs were incurred, remaining unamortized program costs and PPI are included in Rider DSM/EE-9.

The Company's implementation vendor for the Appliance Recycling Program went into receivership and discontinued operations on November 19, 2015. The Company is evaluating other potential vendors and the long-term viability of the program, but for now, no decision has been made and no replacement vendor has been identified.

The Company has added three new programs since the 2015 filing – the residential Save Energy and Water Kit Program, the Business Energy Report and the EnergyWise Business Program. The residential Save Energy and Water Kit Program was launched in November of 2015. It offers participants a free kit including bath aerators, kitchen aerators, shower heads, pipe insulation tape and installation instructions. The program targets residential ratepayers living in single family homes with electric water heaters. The Business Energy Report provides a comparative usage report that compares a customer's energy use to their peer groups along with actionable ideas to help them become more energy efficient. The program was launched on December 30, 2015, and initial reports were scheduled to begin on February 17, 2016. The EnergyWise Business program was launched on January 4, 2016. This program provides the advantages of the residential EnergyWise program to business owners. In return for an incentive, the business owner allows the Company to control the operation of the participants' air conditioning units to mitigate system capacity constraints and improve the reliability of the power grid.

Based on Evaluation, Measurement & Verification Reports ("EM&V Reports"), the Company determined that a significant portion of efficient lighting products sold under the Residential Lighting Program were purchased for commercial use. This caused the Company to split the original program into two programs – Residential Lighting and General Service Lighting.

The DSDR Program is not a typical DSM/EE program. It is a system of electric equipment and operating controls designed to enable the Company to reduce peak demand using the distribution system to reduce generation requirements. Included in the system are new line voltage regulators, additional phase wires, the relocation and addition of line capacitors, modifications of tap line configurations, sensors and intelligent controls on equipment and substations, the enhancement of information technology systems, and a new two-way communications system.

The Company does not earn PPI for the DSDR Program, the Residential Low Income Program, the Residential Solar Hot Water Pilot, or the K12 Education Program. In addition, under the

Original Mechanism, the Company excludes from the PPI computation any programs that do not achieve a Total Resource Cost ("TRC") test result of 1.0 or higher.

The 2013 vintages of the Residential Home Advantage, Residential Home Energy Improvement, Residential New Construction, and Small Business Direct Install programs did not meet the TRC threshold, and were thus excluded from the PPI computation. In addition, the 2014 vintage of the Residential Home Energy Improvement Program was excluded from the PPI computations on the same basis. For 2016 and 2017, even though the Residential Home Energy Improvement Program again failed the TRC test, under the Revised Mechanism the entire portfolio of programs receives a uniform PPI if the portfolio as a whole passes the TRC test, which was the case.

Based on information provided by the Company, the programs appear to be performing well overall. The Company found that, excluding the impact of the DSDR Program, the portfolio exceeded the forecasted 2016 energy savings by 3.7%, and achieved 94% of the forecasted peak demand reduction. The DSDR Program provided an additional system energy savings of 33,941,086 kWhs and peak demand savings of 281,372 kWs in 2016. Although some programs have been discontinued, the Company has added new programs that are performing well.

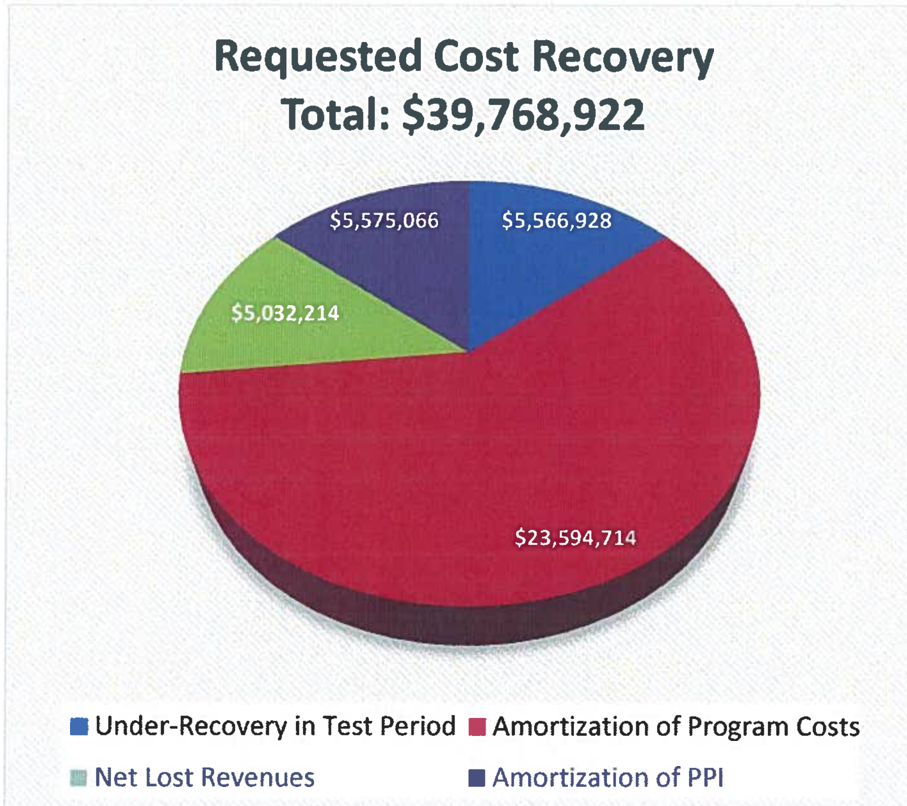
PROGRAM COST EVALUATION

The Company's Revised Mechanism allows DEP to amortize certain costs over three (3) years. The total amortized cost for DEP's filing is $39,768,922. This is the dollar amount the Company is seeking to recover in its filing. For this requested amount, the Company projects an energy savings of 373,942,208 kWhs in 2018, which equates to 10.6 cents/kWh-saved in 2018. Assuming an average five (5)-year life for the measures installed, the lifetime costs average 2.10 cents/kWh-saved.

The total amortized cost of $39,768,922 is comprised of program costs, net lost revenues, PPI and over/under collections during the Test Period. DEP amortizes its Program Costs over three (3) years – including carrying costs – which reflects a request of $23,594,714, or 59% of the total amortized cost. The Company is requesting recovery for Net Lost Revenues of $5,032,214, which is 13% of the total amortized amount. However, DEP does not amortize its Net Lost Revenues. All Net Lost Revenues are recovered during the Rate Period. DEP is also requesting recovery of $5,575,066, or 14% of the total amortized cost as PPI associated with savings resulting from the implementation of DSM and EE programs. DEP amortizes this PPI over three (3) years, with carrying costs. Finally, DEP is requesting $5,566,928, or

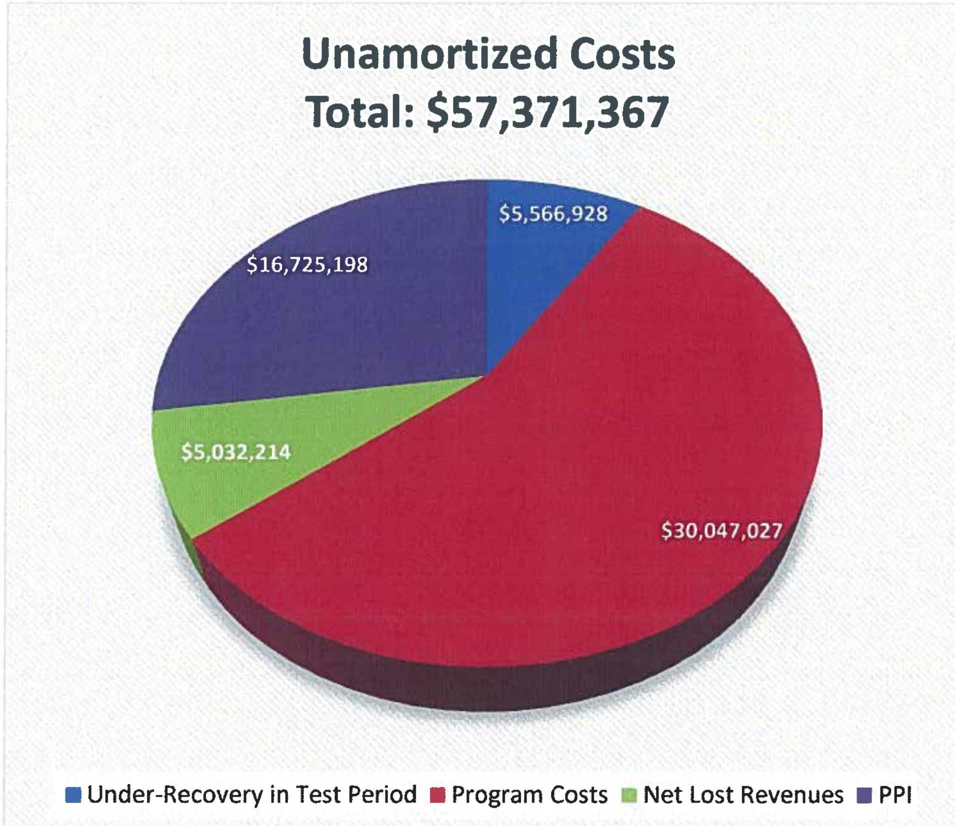
14% of the total amortized cost as the under-recovery of actual program costs during the Test Period. The breakdown of the requested cost recovery is shown in Chart 1 below:

Chart 1:



The total approximate unamortized cost for DEP's filing, including both the Test Period and the Rate Period, is $57,371,367. This amount includes Program Costs of $30,047,027 (52% of the total unamortized cost); Net Lost Revenues of $5,032,214 (9% of the total unamortized cost); a PPI amount of $16,725,198 (29% of the total unamortized cost); and an Under-Recovery in the Test Period of $5,566,928 (10% of the total unamortized cost). The breakdown of the total unamortized costs is shown in Chart 2.

Chart 2:



A breakdown of the major cost components of this filing and the development of the billing factors is shown in Exhibit 1. The requested revenues from residential customers are recovered from all residential ratepayers, while the non-residential revenues are recovered solely from those non-residential ratepayers that do not opt-out of the programs.

EVALUATION, MEASUREMENT & VERIFICATION

The Company has received EM&V Reports for the following vintages and programs:

Vintage 2015	Multifamily Energy Efficiency program
	Energy Efficient Lighting Program
	Neighborhood Energy Saver Program
	EnergyWise Home Demand Reduction Program
	Small Business Energy Saver program

These EM&V Reports were used by the Company to true-up the 2015 vintages of these programs in this filing.

ESTIMATES USED IN THE FILING

For the most part, the programs' avoided energy amounts, avoided capacity amounts, net lost revenues, and PPI amounts are estimates that were developed using the Strategist planning model, the DSMore model and the Company's most recent planning data. Thus, nearly all the dollar amounts in the filing, with the exception of the Test Period program costs and the trued-up vintages of certain programs, are estimates. The estimated values and dollar amounts are to be trued-up in future filings, based on EM&V results. ORS is familiar with the Strategist model and the DSMore model and finds both models to be reasonable tools for this purpose.

FORECASTED RETAIL SALES

For the computation of rates for this filing, the Company has utilized the spring 2017 forecast of retail sales. ORS is familiar with the methodology used to generate the sales forecast and finds it to be a reasonable approach to establish rates.

ENERGY AND PEAK DEMAND SAVINGS

The Company projects that by the end of 2018 the DSM and EE programs will have reduced annual electric usage by a cumulative 2,083,573 megawatt-hours and will have the capability to reduce the annual one-hour peak usage by 426 megawatts. These are considerable savings and may provide DEP the ability to avoid or defer the construction of required new generating facilities.

OPT-OUTS

In its 2016 filing, the Company reported that 167 industrial and commercial customers – representing 65.3% of DEP's industrial load opted out of the Company's DSM and EE programs. In this filing, the Company reports that opt-outs of its DSM and EE programs total 190 industrial and commercial customers representing approximately 63.8% of DEP's industrial and commercial load. Three industrial and commercial customers elected to opt-in to the programs in 2016.

RATE IMPACT

The approved rates for DSM/EE Rider-8 and the Company's requested rates for Rider DSM/EE-9 are shown in Table 2.

Table 2:

DSM/EE Rider	Approved Rider 8 (cents/kWh)	Requested Rider 9 (cents/kWh)	Increase (cents/kWh)	Percentage Increase (%)
Residential	1.146	1.282	0.136	12%
General Service	0.992	0.773	-0.219	-22%

The Company found that the increase in the residential rate is mainly due to increased forecasted participation and increased forecasted effectiveness combined with an additional year of program cost amortization.

CONCLUSION

ORS recommends the following two adjustments to the Company's request in this filing:

- A reduction of $11,583 to the Company's South Carolina request to account for a correction of misstated carrying costs discovered in the Application and to remove certain expenses that were either not allowable for ratemaking purposes or were incorrectly categorized.

- An increase of $521,859 to the Company's South Carolina request to account for program cost and carrying cost calculation errors contained in the Company's Application.

The effect of these adjustments result in an adjusted General Service EE rate exceeding that which was published in the Public Service Commission of South Carolina's ("Commission") Notice of Filing dated August 14, 2017, as well as those published by the Company and posted to the Commission's Docket Management System on September 6, 2017 and September 19, 2017. Therefore, ORS recommends, and concurs with the Company, that these adjustments totaling $510,276 be included in the Company's 2018 filing. ORS did not include the adjustments in Exhibit 1 of this report.

ORS finds that with the recommended adjustments, the updated Rider DSM/EE-9 was developed in accordance with the terms and conditions set forth by the Commission and is based on reasonable estimates of participation in the Company's DSM and EE programs. ORS recommends the approval of the following adjusted Rider DSM/EE-9 rates as illustrated in Table 3.

Table 3:

DSM/EE Rider	Approved Rider 8 (cents/kWh)	Requested Rider 9 (cents/kWh)	Increase (cents/kWh)	Percentage Increase (%)
Residential	1.146	1.282	0.136	12%
General Service	0.992	0.773	-0.219	-22%

If approved, the change in Rider DSM/EE-9 for an average residential customer using 1,000 kWh per month will increase the customer's monthly bill by approximately $1.36. The Company is requesting the updated rates associated with Rider DSM/EE-9 be effective for service rendered on and after January 1, 2018.